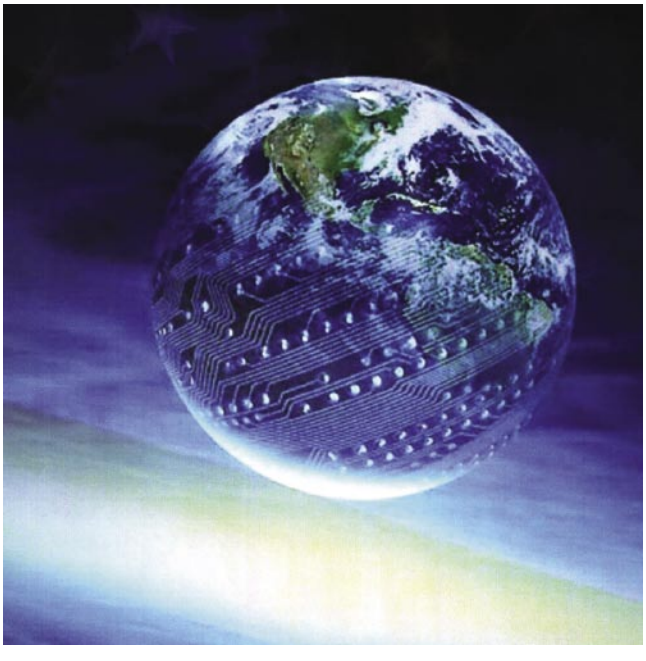
The Power of

INFORMATION

Access Share Collaborate



Where it's needed, When it's needed,
To those who need it

DoD Chief Information Officer

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Transforming Defense

Defense transformation hinges on the recognition that information is our greatest source of power. Information can be leveraged to allow decision makers at all levels to be more effective, make **better decisions faster,** and **act sooner.** Ensuring timely and trusted information is available where it is needed, when it is needed, and to those who need it is at the heart of the capability needed to **conduct Net-Centric Operations (NCO).**

We will conduct network-centric operations with compatible information and communications systems, usable data, and flexible operational constructs

National Defense Strategy (2005)

Becoming Net-Centric requires people, processes, and technology to work together to enable timely:

- **access** to information,
- **sharing** of information, and
- **collaboration** among those involved

Instead of "pushing information out" based on individually engineered and predetermined interfaces, Net-Centricity ensures that a user at any level can both "take what he needs" and "contribute what he knows."

DOD is further developing a fully interoperable, interagency-wide Global Information Grid (GIG). The GIG supports the creation of a collaborative information environment that facilitates information sharing, effective synergistic planning, and execution of simultaneous overlapping operations.

National Military Strategy (2004)

The Net-Centric Enterprise

The **DoD Chief Information Officer (CIO)** provides the leadership to meet the Net-Centric vision and ultimately deliver the critical enabling capabilities required by the National Defense Strategy. Transforming to a Net-Centric Force requires fundamental changes in process, policy, and culture across the Department (defense operations, intelligence functions, and business processes).

Beyond battlefield applications, a network-centric force can increase efficiency and effectiveness across defense operations, intelligence functions, and business processes by giving all users access to the latest, most relevant, most accurate information.

National Defense Strategy (2005)

The technological change will be significant, but the **cultural shift** may be even more challenging. The hallmark of the 21st century is **uncertainty.** Net-Centricity is rooted in a simply principle: ***Confront uncertainty with agility.*** To be agile, data can no longer be "owned"... it must be shared.

Transforming to a network-centric force requires fundamental changes in process, policy and culture. Changes in these areas will provide the necessary speed, accuracy, and quality of decision-making critical to future success.

National Defense Strategy (2005)

Transform America's national security institutions to meet the challenges and opportunities of the 21st century

The National Security Strategy of the United States of America (2006)

Information Environment

Vision - Deliver the Power of Information
- An agile enterprise empowered by access to and sharing of timely and trusted information

Mission - Enable Net-Centric Operations
- Lead the Information Age transformation that enhances the DoD's efficiency and effectiveness

Major DoD Investments and Initiatives

Transport

- Global Information Grid Bandwidth Expansion (GIG-BE)
- Transformational Satellite (TSAT)
- Joint Tactical Radio System (JTRS)
- Teleports
- Spectrum

Services

- Net-Centric Enterprise Services (NCES)

Security

- Information Assurance (IA) Solutions

Execution

- Data Strategy/Communities of Interest (COI)
- NetOps/Management

Enterprise Wide Systems Engineering (EW SE)

- Defines end-to-end, functional, performance, and standards baseline
- Requires enterprise-level decision making
- Builds consensus to develop technical solutions

Environment

Net-Centric Data Strategy

Vision – A flexible and agile Net-Centric, environment of "many-to-many" exchanges and effective decisions

Mission – Implement a data-centric strategy allowing access to and sharing of information

Data Strategy Foundation

- Ensures data are visible, accessible, and understandable
- Accelerates decision making by having data where needed and when needed
- Accommodates known and unanticipated users
- "Tags" data (intelligence/non-intelligence; raw/processed) with metadata to enable discovery
- Requires data and services registries to describe, post, and store
- Posts data to shared spaces for users to access based on identity and role
- Organizes around Communities of Interest (COIs) using a shared vocabulary to exchange information

Data Strategy

Enterprise Service Oriented Architecture

Vision – A Service-Oriented Architecture that is open, output focused, and independent of location and system-ware

Mission – Establish easy-to-use services to access, share, collaborate

Enterprise Services Overview

- Messaging – Ability to exchange information among users or applications
- Discovery – Processes to find information content or services
- Mediation – Software to help broker, translate, aggregate, fuse, or integrate data/metadata
- Collaboration – Allows users to work together and jointly use selected capabilities on the network
- User Assistant – Automated "help" capabilities
- Information Assurance – Capabilities that provide confidentiality, integrity, availability, authorization, and assurance for information, users, applications, and networks
- Storage – Physical and virtual places to host data on the network
- Application – Infrastructure to host and organize distributed on-line processing capabilities
- Enterprise Systems Management (ESM) – End-to-end GIG performance monitoring, configuration management, and problem detection

Enterprise Service

End-to-End Information Assurance (IA)

Vision – Dynamic IA in support of Net-Centric Operations

Mission – Assure DoD's information, information systems, and information infrastructure

IA Strategy Framework

- Protect Information
  - Data protection requirements
  - Protection mechanisms
  - Robust mechanisms
- Defend Systems and Networks
  - Engineer defenses
  - React and respond
  - Assess and evaluate activity
- Provide Situational Awareness/IA C2
  - Integrated operational picture
  - Coordinate IA ops and decisions
  - Evaluate collaboration
- Transform and Enable IA Capabilities
  - Ensure IA integration into programs
  - Dynamic IA capabilities
  - Improve strategic decision-making
  - Information sharing
- Create an IA Empowered Workforce
  - Standardize baseline skills
  - Enhance IA skill levels
  - Provide trained/skilled personnel
  - Infuse IA into other disciplines

Information Assurance

Better Decisions Faster | ***Common Data Registry*** | ***User-Oriented Services*** | ***Trusted, Dependable Data***

V1

The **Global Information Grid (GIG)** will enable Net-Centric Operations and collects, processes, stores and manages the Enterprise data. The GIG is not just a technological backbone. It includes:

- **People,**
- **Process,** and
- **Technology.**

The GIG enables "information on demand."

The GIG has the potential to be the single most important enabler of information and decision superiority.

National Military Strategy (2004)

The Net-Centric Technical Vision

- **Secure and available comms** – IA enabled and encrypted
- **Assured sharing** – trusted access to net resources
- **Only handle information once** – data posted by authoritative sources and visible
- **Post in parallel** – data posted as it is created
- **Smart pull** – applications encourage data discovery
- **Data centric** – data separate from applications
- **Application diversity** – applications posted for use
- **IPv6** – IP, not point-to-point
- **Quality of service** – data timeliness, accuracy, completeness, ease of use

DoD Chief Information Officer
www.dod.mil/cio-nii